

Claims

What is claimed is:

1. A medical device for joining an upper esophageal sac and a lower esophageal sac in an infant, the medical device comprising an esophageal catheter comprising an operative end, a distal end and an upper magnet operatively connected to the distal end.
2. The medical device of claim 1, wherein the upper magnet is slidably disposed on the distal end.
3. A medical device for joining an upper esophageal sac and a lower esophageal sac in an infant, the medical device comprising a gastric catheter comprising an operative end, a distal end, and a lower magnet operatively connected to the distal end.
4. The medical device of claim 3, wherein the lower magnet is slidably disposed on the distal end.
5. A medical system for joining an upper esophageal sac and a lower esophageal sac in an infant, the medical device comprising:
 - a first elongate member comprising an operative end, a distal end and an upper magnet connected to the distal end; and
 - a second elongate member comprising an operative end, a distal end, and a lower magnet connected to the distal end, wherein the upper magnet and the lower magnet are configured to approximate the upper esophageal sac and the lower esophageal sac.
6. The medical system of claim 5, wherein the upper magnet is configured to mate with the lower magnet.

7. The medical system of claim 6, wherein the upper magnet is bullet-shaped and the lower magnet comprises a bullet-shaped recess.
8. The medical system of claim 6, wherein the upper magnet comprises a bullet-shaped recess and the lower magnet is bullet-shaped.
9. The medical system of claim 5, further comprising:
 - a guide wire; and
 - a passageway extending axially through the first elongate member and the second elongate member, the passageway being adapted to receive the guide wire.
10. The medical system of claim 5, wherein the first elongate member further comprises:
 - a passageway extending axially through the first elongate member; and
 - a flexible elongate member extending axially through the interior of the passageway, the flexible elongate member being operatively connected to the upper magnet.
11. The medical system of claim 5, wherein the second elongate member further comprises:
 - a passageway extending axially through the second elongate member; and
 - a flexible elongate member extending axially through the passageway, the flexible elongate member being operatively connected to the lower magnet.
12. The medical system of claim 11, further comprising a hub operatively connected to the operative end of the second elongate member; and a valve operatively connected to the hub.
13. The medical system of claim 5, wherein the second elongate member further comprises:

a balloon; and
a second passageway extending axially through the second elongate member, the second passageway having a distal end and an operative end, the distal end of the second passageway being connected to the balloon;
and
a balloon operation hub operatively connected to the operative end of the second passageway.

14. The medical system of claim 11, wherein the second elongate member further comprises:

a balloon; and
a second passageway extending axially through the second elongate member, the second passageway having a distal end and an operative end, the distal end of the second passageway being connected to the balloon;
and
a balloon operation hub operatively connected to the operative end of the second passageway.

15. The medical device of claim 5, wherein the second elongate member further comprises:

a plurality of ports;
a third passageway extending axially through the second elongate member, the third passageway having a distal end and an operative end, the distal end of the third passageway being configured to communicate with the plurality of ports; and
a gastrostomy hub operatively connected to the operative end of the third passageway.

16. The medical device of claim 14, wherein the second elongate member further comprises:

a plurality of ports;

a third passageway extending axially through the second elongate member, the third passageway having a distal end and an operative end, the distal end of the third passageway being configured to communicate with the plurality of ports; and
a gastrostomy hub operatively connected to the operative end of the third passageway.

17. The medical system of claim 5, further comprising a band and a flared distal portion, wherein the upper magnet is secured to the distal end of the first elongate member by the band and the flared distal portion.

18. A medical system for joining an upper esophageal sac and a lower esophageal sac, the medical system comprising:

an esophageal catheter comprising:

an operative end, a distal end, and an upper magnet,

a passageway extending axially through the esophageal catheter;

and

an elongate member extending axially through the passageway, the flexible elongate member being operatively connected to the upper magnet; and

a gastric catheter comprising:

an operative end, a distal end, and a lower magnet, wherein the upper magnet is configured to attract the lower magnet;

a passageway extending axially through the gastric catheter, the passageway having an operative end;

an elongate member extending axially through the passageway, the elongate member being operatively connected to the lower magnet;

a hub operatively connected to the operative end of the passageway;

a balloon;

a second passageway extending axially through the gastric catheter, the second passageway having a distal end and an operative end, the distal end of the passageway being connected to the balloon;
a balloon operation hub operatively connected to the operative end of the second passageway;
a plurality of ports;
a third passageway extending axially through the gastric catheter, the third passageway having a distal end and an operative end, the distal end of the third passageway being configured to communicate with the plurality of ports; and
a hub operatively connected to the operative end of the third passageway.

19. A method of treating esophageal atresia in an infant having an upper esophageal sac and a lower esophageal sac, the method comprising the steps of:

- a) providing an esophageal catheter comprising a proximal end, a distal end, and a magnetic tip operatively connected to the distal end;
- b) providing a gastric catheter comprising a proximal end, a distal end, and a magnetic tip operatively connected to the distal end;
- c) passing the magnetic tip of the esophageal catheter through one of a mouth or a nasal passage of the infant;
- d) advancing the magnetic tip of the esophageal catheter distally within the esophagus of the infant and positioning the magnetic tip of the esophageal catheter to contact the terminus of the upper esophageal sac;
- e) passing the magnetic tip of the gastric catheter through an opening in an abdomen of the infant; and

- f) advancing the magnetic tip of the gastric catheter distally within the stomach and positioning the magnetic tip of the gastric catheter to contact the terminus of the lower esophageal sac of the infant, whereby magnetic force causes the magnetic tip of the esophageal catheter to be attached to the magnetic tip of the gastric catheter so as to approximate the upper esophageal sac with the lower esophageal sac.